

**REMARKS**

By this amendment, claims 1, 9, 10, 13, 14, 17, and 19 have been amended, claims 2, 5, and 8 have been canceled without prejudice or disclaimer, and new claims 21-23 have been added. Accordingly, claims 1, 3, 4, 6, 7, and 9-23 are currently pending in the application, of which claims 1, 17, and 20 are independent claims. Applicants appreciate the indication that claims 10, 12, 14, and 15 contain allowable subject matter and the indication that claim 20 is allowed.

Applicants respectfully submit that the above amendments do not add new matter to the application and are fully supported by the specification. Support for the amendments and added claims may be found at least in Figures 3-4 and at paragraph [0035] of the specification.

In view of the above amendments and the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

***Claim Objection***

In the Office Action, claim 19 was objected to because of an informality.

Claim 19 has been amended to change “ployolefin” to “polyolefin”. This amendment is not made for the purpose of avoiding prior art or narrowing the claimed invention, and no change in claim scope is intended. Therefore Applicants do not intend to relinquish any subject matter by this amendment. Applicants respectfully submit that claim 19, as amended, overcomes the stated objection. Accordingly, Applicants respectfully request withdrawal of the objection for claim 19.

***Rejections Under 35 U.S.C. § 112, first paragraph***

Claims 2, 5, 8, 13, and 14 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement.

Claims 2, 5, and 8 have been canceled. Claims 13 and 14 have been amended.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 112, first paragraph rejection of claims 2, 5, 8, 13, and 14.

***Rejections Under 35 U.S.C. § 102***

Claims 1, 3, 4, 6, and 7 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 6,303,244 issued to Surampudi, *et al.* ("Surampudi").

In order for a rejection under 35 U.S.C. § 102(b) to be proper, a single reference must disclose every claimed feature. To be patentable, a claim need only recite a single novel feature that is not disclosed in the cited reference. Thus, the failure of a cited reference to disclose one or more claimed features renders the 35 U.S.C. § 102(b) rejection improper.

Claim 1 recites, *inter alia*:

a fuel storage unit that stores the fuel to be supplied to the fuel cell stack;  
a diluent storage unit that stores only a diluent that is a byproduct of the chemical reaction in the fuel cell stack ...  
wherein the diluent comprises H<sub>2</sub>O ...

Surampudi fails to disclose at least these features. The diluent storage unit of claim 1 "stores *only* a diluent *that is a byproduct of the chemical reaction in the fuel cell stack.*" (emphasis added). Surampudi, on the other hand, discloses condensers 940 and 942 that lower the water temperature and allow both recycled methanol and the water from the electrode stack 924 to condense (col. 18, lines 31-35). Because both recycled methanol and water pass through the condensers 940 and 942, the condensers 940 and 942 do not store "only a diluent that is a byproduct of the chemical reaction in the fuel cell stack...wherein the diluent comprises

H<sub>2</sub>O.” In other words, recycled methanol is not a byproduct of the chemical reaction in the fuel cell stack. In rejecting claim 1, the Office Action states that “one of ordinary skill would reasonably expect some unconsumed fuel … to be released in the exhaust.” (page 7).

Applicants disagree. As noted in paragraph [0022] and shown by the line in Figure 1 leading from the fuel cell stack 101 to the fuel mixing unit 109, “[a] fuel mixture that was sent to the fuel cell stack 101 but was not used for the chemical reaction is collected back into the fuel mixing unit 109.”

Hence, Surampudi fails to teach or suggest at least “a diluent storage unit that stores only a diluent that is a byproduct of the chemical reaction in the fuel cell stack” for at least the reasons noted above. Therefore, Surampudi fails to teach or suggest each and every feature of claim 1.

Claims 17 and 18 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent No. 6,890,674 issued to Beckmann, et al. (“Beckmann”).

Amended claim 17 recites, *inter alia*:

wherein a signal is output when an expansion coefficient of the sensor film is not within a reference range of expansion coefficients of the sensor film

Beckmann fails to disclose at least these features. Therefore, Beckmann fails to teach or suggest each and every feature of claim 17.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102 rejection of claims 1 and 17. Claims 3, 4, 6, 7, 9-16, and 21 depend from claim 1 and are allowable at least for this reason. Claims 18 and 19 depend from claim 17 and are allowable at least for this reason. Since none of the other prior art of record discloses or suggests all the features of the

claimed invention, Applicants respectfully submit that independent claims 1 and 17, and all the claims that depend therefrom, are allowable.

***Rejections Under 35 U.S.C. § 103***

Claims 2, 5, 8, 9, and 13 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Surampudi in view of Beckmann.

Applicants respectfully submit that claim 1 is allowable over Surampudi and Beckmann fails to cure the deficiencies of Surampudi noted above with regard to claim 1. Hence, claims 2, 5, 8, 9, and 13 are allowable at least because they depend from an allowable claim 1.

Claims 11 and 15 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Surampudi. Applicants respectfully submit that claim 1 is allowable over Surampudi. Hence, claims 11 and 15 are allowable at least because they depend from an allowable claim 1.

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Beckmann in view of Surampudi.

Applicants respectfully submit that claim 17 is allowable over Beckmann and Surampudi fails to cure the deficiencies of Beckmann noted above with regard to claim 17. Hence, claim 19 is allowable at least because it depends from an allowable claim 17.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 9, 11, 13, 15, and 19. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that claims 9, 11, 13, 15, and 19 are allowable.

***Allowable Subject Matter***

Applicants appreciate the indication that claims 10, 12, 14, and 16 contain allowable subject matter. Applicants respectfully submit that claims 10, 12, 14, and 16 depend from an allowable base claim and are allowable at least for this reason. Accordingly, Applicants submit that claims 10, 12, 14, and 16 are in condition for allowance.

Applicants appreciate the indication that claim 20 is allowed.

***Added Claims***

Added claims 21-23 are directed to additional features of the invention, which are not disclosed or suggested in the art of record. These claims are allowable at least because they depend from an allowable base claim.

**CONCLUSION**

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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Date: January 23, 2008

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